

CRF Processing Date: 6/17/2002
 Edited by: [Signature]
 Verified by: [Signature] (STIC staff)

Serial Number: 10/010,667A

ENTERED

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was wrapped down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically:
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included:
- ☐ Deleted extra, invalid, headings used by an applicant, specifically:
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as _____
- ☐ Inserted mandatory headings, specifically: _____
- ☐ Corrected an obvious error in the response, specifically:
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically:
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted **ending** stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____
- ☐ Other: _____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.



OIEP

RAW SEQUENCE LISTING

DATE: 06/17/2002

PATENT APPLICATION: US/10/010,667A

TIME: 19:48:45

Input Set : N:\jumbos\010667A.txt

Output Set: N:\CRF3\06172002\J010667A.raw

P. 6

```

4 <110> APPLICANT: Afar, Daniel
5      Hubert, Rene S.
6      Leong, Kahan
7      Raitano, Arthur B.
8      Saffran, Douglas C.
9      Mitchell, Steve Chappell
11 <120> TITLE OF INVENTION: NOVEL SERPENTINE TRANSMEMBRANE ANTIGENS
12      EXPRESSED IN HUMAN CANCERS AND USES THEREOF
15 <130> FILE REFERENCE: 511582001601
17 <140> CURRENT APPLICATION NUMBER: US 10/010,667A
18 <141> CURRENT FILING DATE: 2001-12-06
20 <150> PRIOR APPLICATION NUMBER: 09/323,873
21 <151> PRIOR FILING DATE: 1999-06-01
23 <150> PRIOR APPLICATION NUMBER: 60/087,520
24 <151> PRIOR FILING DATE: 1998-06-01
26 <150> PRIOR APPLICATION NUMBER: 60/091,183
27 <151> PRIOR FILING DATE: 1998-06-30
29 <160> NUMBER OF SEQ ID NOS: 32
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 1195
35 <212> TYPE: DNA
36 <213> ORGANISM: Homo Sapiens
38 <400> SEQUENCE: 1
39 ccgagactca cggcgaagct aaggcgaaga gtgggtggct gaagccatac tattttatag      60
40 aattaatgga aagcagaaaa gacatcacaa accaagaaga actttggaaa atgaagccta      120
41 ggagaaaattt agaagaagac gattatttgc ataaggacac gggagagacc agcatgctaa      180
42 aaagacctgt gcttttgcac ttgcaccaa cagcccatgc tgatgaattt gactgccctt      240
43 cagaacttca gcacacacag gaactctttc cacagtggca cttgccaatt aaaatagctg      300
44 ctattatagc atctctgact tttctttaca ctctcttgag ggaagtaatt caccctttag      360
45 caacttccca tcaacaatat tttataaaa ttccaatcct ggtcatcaac aaagtcttgc      420
46 caatggtttc catcactctc ttggcattgg tttacctgcc aggtgtgata gcagcaattg      480
47 tccaacttca taatggaacc aagtataaga agtttccaca ttggttgatg aagtggatgt      540
48 taacaagaaa gcagtttggg cttctcagtt tcttttttgc tgtactgcat gcaatttata      600
49 gtctgtctta cccaatgagg cgatcctaca gatacaagtt gctaaactgg gcatatcaac      660
50 aggtccaaca aaataaagaa gatgcctgga ttgagcatga tgtttgagaa atggagattt      720
51 atgtgtctct gggaattgtg ggattggcaa tactggctct gttggctgtg acatctattc      780
52 catctgtgag tgactctttg acatggagag aatttcaact tattcagagc aagctaggaa      840
53 ttgtttccct tctactgggc acaatacacg cattgatatt tgccctggaat aagtggatag      900
54 atataaaaac atttgtatgg tatacacctc caacttttat gatagctgtt ttccttccaa      960
55 ttgtttgcct gatatttaaa agcatactat ccctgccaatg cttgaggaag aagatactga      1020
56 agattagaca tgggtgggaa gacgtcacca aaattaacaa aactgagata tgttccagat      1080
57 tgtagaatta ctgtttacac acatttttgt tcaatattga tatattttat caccaacatt      1140

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61 <211> LENGTH: 339
62 <212> TYPE: PRT
63 <213> ORGANISM: Homo sapiens
65 <400> SEQUENCE: 2
66 Met Glu Ser Arg Lys Asp Ile Thr Asn Gln Glu Glu Leu Trp Lys Met
67 1 5 10 15
68 Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys Asp Thr
69 20 25 30
70 Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His Leu His Gln
71 35 40 45
72 Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu Leu Gln His Thr
73 50 55 60
74 Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile Lys Ile Ala Ala Ile
75 65 70 75 80
76 Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu Leu Arg Glu Val Ile His
77 85 90 95
78 Pro Leu Ala Thr Ser His Gln Gln Tyr Phe Tyr Lys Ile Pro Ile Leu
79 100 105 110
80 Val Ile Asn Lys Val Leu Pro Met Val Ser Ile Thr Leu Leu Ala Leu
81 115 120 125
82 Val Tyr Leu Pro Gly Val Ile Ala Ala Ile Val Gln Leu His Asn Gly
83 130 135 140
84 Thr Lys Tyr Lys Lys Phe Pro His Trp Leu Asp Lys Trp Met Leu Thr
85 145 150 155 160
86 Arg Lys Gln Phe Gly Leu Leu Ser Phe Phe Ala Val Leu His Ala
87 165 170 175
88 Ile Tyr Ser Leu Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu
89 180 185 190
90 Leu Asn Trp Ala Tyr Gln Gln Val Gln Gln Asn Lys Glu Asp Ala Trp
91 195 200 205
92 Ile Glu His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile
93 210 215 220
94 Val Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser
95 225 230 235 240
96 Val Ser Asp Ser Leu Thr Trp Arg Glu Phe His Tyr Ile Gln Ser Lys
97 245 250 255
98 Leu Gly Ile Val Ser Leu Leu Leu Gly Thr Ile His Ala Leu Ile Phe
99 260 265 270
100 Ala Trp Asn Lys Trp Ile Asp Ile Lys Gln Phe Val Trp Tyr Thr Pro
101 275 280 285
102 Pro Thr Phe Met Ile Ala Val Phe Leu Pro Ile Val Val Leu Ile Phe
103 290 295 300
104 Lys Ser Ile Leu Phe Leu Pro Cys Leu Arg Lys Lys Ile Leu Lys Ile
105 305 310 315 320
106 Arg His Gly Trp Glu Asp Val Thr Lys Ile Asn Lys Thr Glu Ile Cys
107 325 330 335
108 Ser Gln Leu

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Input Set : N:\jumbos\010667A.txt

Output Set: N:\CRF3\06172002\J010667A.raw

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112 <211> LENGTH: 111
113 <212> TYPE: DNA
114 <213> ORGANISM: Homo sapiens
116 <400> SEQUENCE: 3
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118 attgaacatt ccagatacct atcattactc gatgctgttg ataacagcaa g                  111
120 <210> SEQ ID NO: 4
121 <211> LENGTH: 24
122 <212> TYPE: DNA
123 <213> ORGANISM: Artificial Sequence
125 <220> FEATURE:
126 <223> OTHER INFORMATION: Primer
128 <400> SEQUENCE: 4
129 actttgttga tgaccaggat tgga                                          24
131 <210> SEQ ID NO: 5
132 <211> LENGTH: 24
133 <212> TYPE: DNA
134 <213> ORGANISM: Artificial Sequence
136 <220> FEATURE:
137 <223> OTHER INFORMATION: Primer
139 <400> SEQUENCE: 5
140 cagaacttca gcacacacag gaac                                          24
142 <210> SEQ ID NO: 6
143 <211> LENGTH: 3627
144 <212> TYPE: DNA
145 <213> ORGANISM: Homo sapiens
147 <400> SEQUENCE: 6
148 ggggcccgc cctctgggca gcagcggcag ccgagactca cgggtcaagct aaggcgaaga      60
149 gtgggtggct gaagccatac tattttatag aattaatgga aagcagaaaa gacatcacaa      120
150 accaagaaga actttggaaa atgaagccta ggagaaattt agaagaagac gattattttgc      180
151 ataaggacac gggagagacc agcatgctaa aaagacctgt gcttttgcac ttgcacacaa      240
152 cagcccatgc tgatgaattt gactgccctt cagaacttca gcacacacag gaactctttc      300
153 cacagtggca cttgcccaatt aaaatagctg ctattatagc atctctgact tttctttaca      360
154 ctcttctgag ggaagtaatt cacccttag caacttccca tcaacaatat tttataaaaa      420
155 ttccaatcct ggtcatcaac aaagtcttgc caatggtttc catcactctc ttggcattgg      480
156 tttacctgcc aggtgtgata gcagcaattg tccaacttca taatggaacc aagtataaga      540
157 agtttccaca ttggttggat aagtggatgt taacaagaaa gcagtttggg cttctcagtt      600
158 tcttttttgc tgtactgcat gcaatttata gtctgtctta cccaatgagg cgatcctaca      660
159 gatacaagtt gctaaactgg gcataatcaac aggtccaaca aaataaagaa gatgcctgga      720
160 ttgagcatga tgtttggaga atggagattt atgtgtctct gggaattgtg ggattggcaa      780
161 tactggctct gttggctgtg acatctattc catctgtgag tgactctttg acatggagag      840
162 aatttcaacta tattcaggta aataatatat aaaataaccc taagaggtaa atcttctttt      900
163 tgtgtttatg atatagaata tgttgacttt accccataaa aaataacaaa tgtttttcaa      960
164 cagcaaagat cttatacttg ttccaattaa taatgtgctc tcctgttgtt ttccctattg      1020
165 cttctaatta ggacaagtgt ttcttagaca taaataaaag gcattaaaat attctttgtt      1080
166 tttttttttt tgtttgtttg tttttgtttt gtttgtttgt ttttttgaga tgaagtctcg      1140
167 ctctgttgcc catgctggag tacagtggca cgatctcggc tcaactgcaac ctgcgccctcc      1200
168 tgggttcagg cgattctctt gcctcagcct cctgagtagc tgggattaca ggcacccatc      1260

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169 accatgtcca gctaattttt gtatttttag tagagacagg gttttcccat gttggccagg 1320
170 ctggtctcga tctcctgacc tcaaatgac cgcccacctc ggcctcccaa agtgctggga 1380
171 tgacagttgt gagccaccac actcagcctg ctctttctaa tatttgaaac ttgttagaca 1440
172 atttgctacc catctaattgt gatatttttag gaatccaata tgcatgggtt attatttctt 1500
173 aaaaaaaata ttctttttacc tgtcacctga atttagtaat gccttttatg ttacacaaact 1560
174 tagcactttc cagaaacaaa aactctctcc ttgaaataat agagttttta tctaccaaag 1620
175 atatgctagt gtctcatttc aaaggtgct tttccagct tacattttat atacttactc 1680
176 acttgaagtt tctaaatatt cttgtaattt taaaactatc tcagatttac tgaggtttat 1740
177 cttctgggtg tagattatcc ataagaagag tgatgtgcca gaatcactct gggatccttg 1800
178 tctgacaaga ttcaaaggac taaatttaat tcagtcatga aactgcca ttaccgttta 1860
179 tgggtagaca tctttggaaa ttccacaag gtcagacatt cgcaactatc cttctacat 1920
180 gtccacacgt atactccaac actttattag gcatctgatt agtttgaaa gtatgcctcc 1980
181 atctgaatta gtccagtgtg ctttagagtt ggtacaacat tctcacagaa tttcctaatt 2040
182 ttgtaggttc agcctgataa ccaactggagt tctttggctc tcattaaata gctttcttca 2100
183 cacattgctc tgccgtgttac acatatgatg aacactgctt tttagacttc attaggaatt 2160
184 taggactgca tcttgacaac tgagcctatt ctactatatg tacaatacct agcccataat 2220
185 aggtatacaa tacacatttg gtaaaactaa ttttcaacca atgacatgta tttttcaact 2280
186 agtaacctag aaatgtttca cttaaaatct gagaactggg tacactaca gttaccttg 2340
187 agattcatat atgaaaacgc aaacttagct atttgattgt attcactggg acttaagaat 2400
188 gcgcctgaat aattgtgagt tcgatttggt ctggcaggct aatgaccatt tccagtaaag 2460
189 tgaatagagg tcagaagtcg tataaaagag gtgtgtgcag aacaccgttg agattacata 2520
190 ggtgaacaac tatttttaag caactttatt tgtgtagtga caaagcatcc caatgcaggc 2580
191 tgaaatgttt catcacatct ctggatctct ctattttgtg cagacattga aaaaattgtt 2640
192 catattattt ccatgttatc agaataattg attttttaaa aacataggcc aagttcattc 2700
193 acttcattat tcatttatca aaatcagagt gaatcacatt agtcgccttc acaactgata 2760
194 aagatcactg aagtcaaatt gatttttgct ataactttca atctacctat atttaattga 2820
195 gaatctaaaa tgtacaaatc attgtgttga ttctgcagtg atcctgctat aagtaagact 2880
196 cagtccttga ttttaggtat cctgtgaaaa gcagaattaa gacaaataca caagagacaa 2940
197 agcacaaaaa ataaatatca taaggggatg aacaaaatgg tggagaaaga gtagacaaag 3000
198 tttttgatca cctgccttca aagaaaggct gtgaattttg ttcacttaga cagcttggag 3060
199 acaagaaatt acccaaaagt aaggtgagga ggataggcaa aaagagcaga aagatgtgaa 3120
200 tggacattgt tgagaaatgt gataggaaaa caatcataga taaaggattt ccaagcaaca 3180
201 gagcatatcc agatgaggta ggatgggata aactcttatt gaaccaatct tcaccaattt 3240
202 tgtttttctt ttgcagagca agctaggaat tgtttccctt ctactgggca caatacacgc 3300
203 attgattttt gcctggaata agtggataga tataaaacaa tttgtatggt atacacctcc 3360
204 aacttttatg atagctgttt tccttccaat tgttgcctg atatttataa gcatactatt 3420
205 cctgccatgc ttgaggaaga agatactgaa gattagacat ggttgggaag acgtcaccaa 3480
206 aattaacaaa actgagatat gttcccagtt gtagaattac tgtttacaca catttttggt 3540
207 caatattgat atattttatc accaacattt caagtttgta tttgttaata aaatgattat 3600
208 tcaaggaaaa aaaaaaaaaa aaaaaaa 3627
210 <210> SEQ ID NO: 7
211 <211> LENGTH: 519
212 <212> TYPE: DNA
213 <213> ORGANISM: Homo sapiens
215 <400> SEQUENCE: 7
216 gacttttaca aaattcctat agagattgtg aataaaacct tacctatagt tgccattact 60
217 ttgctctccc tagtatacct cgcaggctct ctggcagctg cttatcaact ttattacggc 120
218 accaagtata ggagatttcc accttggttg gaaacctggt tacagtgtag aaaacagctt 180
219 ggattactaa gttttttctt cgctatggtc catgttgcct acagcctctg cttaccgatg 240

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Input Set : N:\jumbos\010667A.txt

Output Set: N:\CRF3\06172002\J010667A.raw

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220 agaaggtcag agagatatatt gtttctcaac atggccttatc agcaggttca tgcaaatatt      300
221 gaaaactcctt ggaatgagga agaagtttgg agaattgaaa tgtatatctc ctttggcata      360
222 atgagccttg gcttactttc cctcctggca gtcacttcta tcccttcagt gagcaatgct      420
223 ttaaactgga gagaattcag ttttattcag tctacacttg gatatgtcgc tctgctcata      480
224 agtactttcc atgttttaaat ttatggatgg aaacgagct                               519

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226 <210> SEQ ID NO: 8

227 <211> LENGTH: 173

228 <212> TYPE: PRT

229 <213> ORGANISM: Homo sapiens

231 <400> SEQUENCE: 8

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232 Asp Phe Tyr Lys Ile Pro Ile Glu Ile Val Asn Lys Thr Leu Pro Ile
233 1 5 10 15

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```

234 Val Ala Ile Thr Leu Leu Ser Leu Val Tyr Leu Ala Gly Leu Leu Ala
235 20 25 30

```

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236 Ala Ala Tyr Gln Leu Tyr Tyr Gly Thr Lys Tyr Arg Arg Phe Pro Pro
237 35 40 45

```

```

238 Trp Leu Glu Thr Trp Leu Gln Cys Arg Lys Gln Leu Gly Leu Leu Ser
239 50 55 60

```

```

240 Phe Phe Phe Ala Met Val His Val Ala Tyr Ser Leu Cys Leu Pro Met
241 65 70 75 80

```

```

242 Arg Arg Ser Glu Arg Tyr Leu Phe Leu Asn Met Ala Tyr Gln Gln Val
243 85 90 95

```

```

244 His Ala Asn Ile Glu Asn Ser Trp Asn Glu Glu Glu Val Trp Arg Ile
245 100 105 110

```

```

246 Glu Met Tyr Ile Ser Phe Gly Ile Met Ser Leu Gly Leu Leu Ser Leu
247 115 120 125

```

```

248 Leu Ala Val Thr Ser Ile Pro Ser Val Ser Asn Ala Leu Asn Trp Arg
249 130 135 140

```

```

250 Glu Phe Ser Phe Ile Gln Ser Thr Leu Gly Tyr Val Ala Leu Leu Ile
251 145 150 155 160

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252 Ser Thr Phe His Val Leu Ile Tyr Gly Trp Lys Arg Ala

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253 165 170

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255 <210> SEQ ID NO: 9

256 <211> LENGTH: 322

257 <212> TYPE: DNA

258 <213> ORGANISM: Homo sapiens

260 <400> SEQUENCE: 9

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262 cagagtgact ttacaaaat tcctatagag attgtgaata aaaccttacc tatagttgcc      120

```

```

263 attactttgc tctccctagt ataccttgca ggtcttctgg cagctgctta tcaactttat      180

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```

264 tacggcacca agtataggag atttccacct tggttggaaa cctgggttaca gtgtagaaaa      240

```

```

265 cagcttgat tactaagttg tttcttcgct atgggtccatg ttgcctacag cctctgctta      300

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266 ccgatgagaa ggtcagagag at                               322

```

268 <210> SEQ ID NO: 10

269 <211> LENGTH: 183

270 <212> TYPE: DNA

271 <213> ORGANISM: Homo sapiens

273 <400> SEQUENCE: 10

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274 ttgacagctt tgcagatacc cagactgagc tggaactgga atttgtcttc ctattgactc      60

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/17/2002
PATENT APPLICATION: US/10/010,667A TIME: 19:48:46

Input Set : N:\jumbos\010667A.txt
Output Set: N:\CRF3\06172002\J010667A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; N Pos. 11,56,233,250,310,326,377,398